



Ministry  
of the  
Environment

Hon. George A. Kerr, Q.C.  
Minister

K. H. Sharpe  
Deputy Minister

## SELF-HELP FOR RECREATIONAL LAKES - CENTRAL REGION

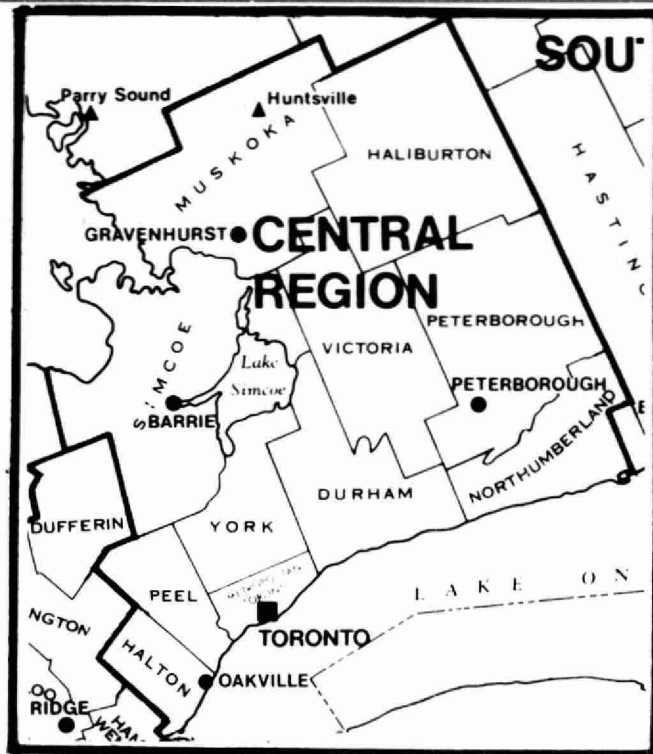
JUNE, 1977

Our heritage in Ontario is thousands of clear, sparkling lakes. And hundreds of cottagers and shoreline residents are involved in a program to ensure that the heritage remains a permanent legacy.

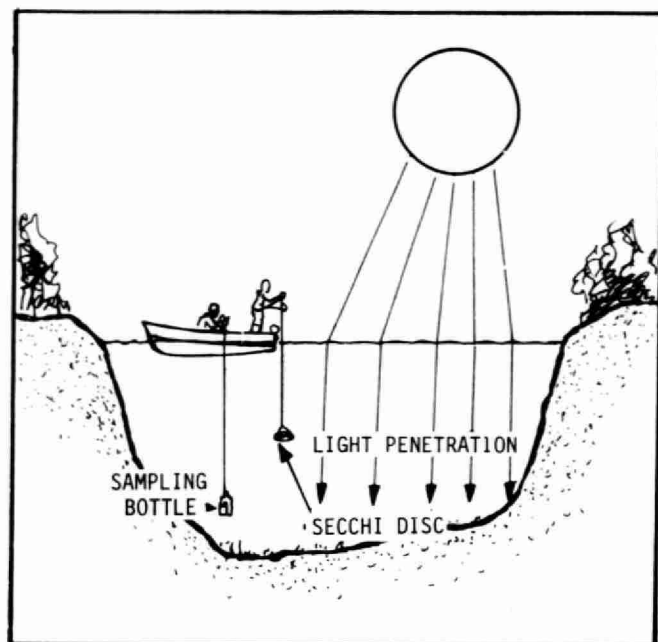
The program's called Self-Help and it encourages residents, cottagers and marina and resort owners to be aware of and to understand water pollution problems in our vacation country. In addition, their voluntary assistance to staff of Environment Ontario contributes materially to the identification and solution of water quality problems.

At the start of the Self-Help program in 1971 only 12 lakes were involved. But participation has grown steadily since then to more than 150 lakes today. Half of these are located within Environment Ontario's Central Region.

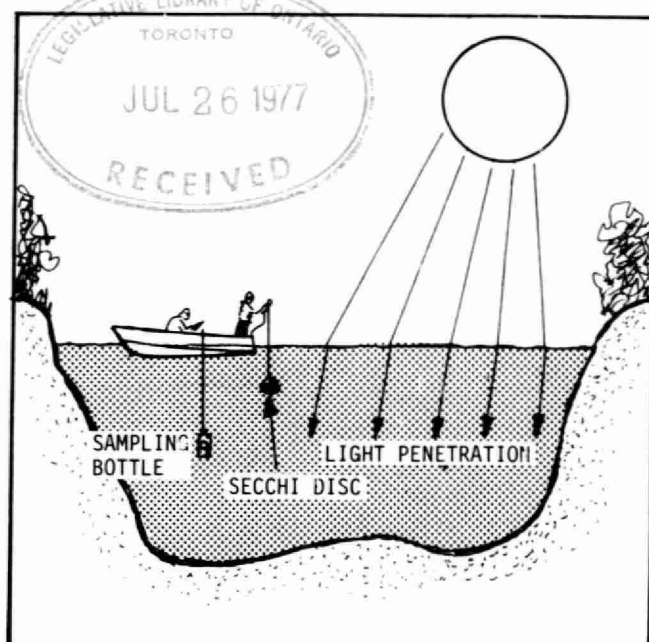
Environment Ontario supplies Secchi discs to cottagers -- discs painted with black and white alternating quarters. These are lowered into lake water until they disappear from view and the depth to which they are visible is recorded. In addition,



tion, Ministry staff supplies composite sampling devices which are lowered into the lakes to secure chlorophyll a samples. Chlorophyll a, the green pigment involved in photosynthesis, indicates the amount of



UNENRICHED LAKE



ENRICHED LAKE

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algae and therefore the extent of biological activity in a lake at the time of sampling.

Ideally, these samplings are conducted weekly as long as a lake is ice-free and forwarded to Environment Ontario's laboratory in Metropolitan Toronto for analysis. During the winter months, the results of the testing program are summarized and reports prepared which are returned to the individuals participating in the study and released to the public.

Ministry biologists use information gathered from the Secchi disc and chlorophyll a sampling in determining the degree of nutrient enrichment in a given lake. With this information, detrimental changes in water quality can be identified and remedial steps taken.

Secchi disc readings are used to determine the depth to which light penetrates in a lake (twice the Secchi disc depth). Algae is a plant needing light to grow. Since light penetration is affected by the density of algae cells suspended in the water, a good correlation should exist between the depth to which light penetrates and the amount of chlorophyll a in a series of lakes of varying degrees of enrichment, assuming that color and suspended particulate materials contribute minimally to light transmission.

The Ontario Ministry of the Environment and other government agencies involved in the control and management of shoreline development of cottages and resorts are concerned with the maintenance of good water quality. In 1970, Environment Ontario established a recreational lake program as a continuing study to collect and assess data on lakes in the Province to ensure that future development and recreational use of these waters will be well managed to protect their quality.

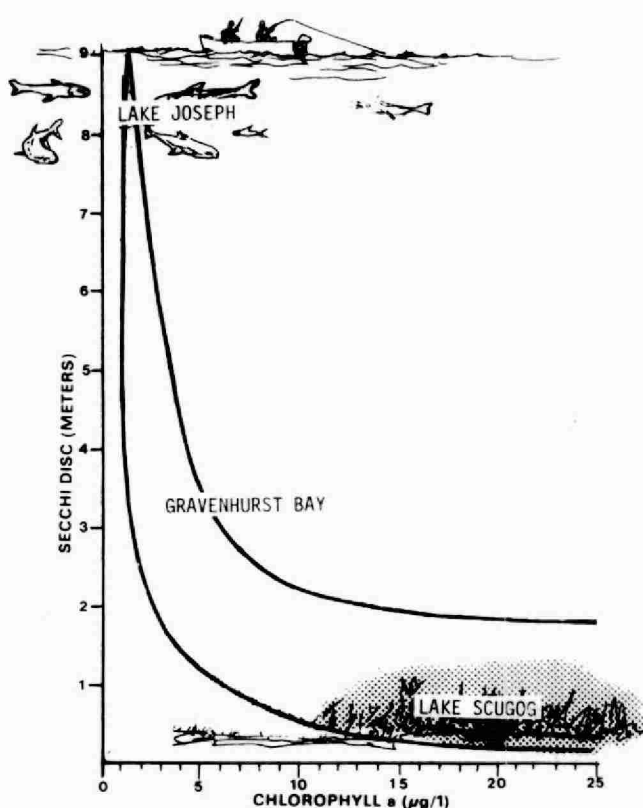
Ontario government agencies do not have the resources or manpower to conduct intensive surveys on the hundreds of Provincial lakes annually, nor are such surveys necessary to monitor water quality of recreational lakes on a routine basis. In 1971 a relatively simple but effective "Self-Help" program was introduced by the Ministry of the Environment in which cottagers' associations and individual lake residents volunteer activity to measure clarity on their lake and to

collect water samples at weekly intervals. The volunteers are supplied with necessary sampling equipment bottles and instructions and ship the water samples to the nearest Ministry laboratory.

Individuals requiring additional information on the Secchi disc - chlorophyll a Self-Help program are required to write to:

Ontario Ministry of the Environment  
Central Region  
150 Ferrand Drive  
Don Mills, Ontario

(telephone 416-424-3000)



The relationship between Secchi disc and chlorophyll a for some lakes in Central Region. The position of each lake on the curve reflects the lake's relative status of enrichment.